Applicant's Name_____

ENGINES

Reference FAA Order 8110.37, Appendix 2, Chart E

DER APPLICATION EVALUATION TECHNICAL CRITERIA
Delegated Functions & Authorized Areas

- Applicant indicates requested area(s) of delegation and attaches supporting data to establish technical expertise and experience.
- Advisor (**Adv**) evaluates requested area(s), recommends area(s) to Evaluation Panel (**EP**). (Y=YES; N=NO) and provides rationale.
- Evaluation Panel evaluates area(s) recommended by Advisor, marks **EP** column. (Y=YES; N=NO) and provides rationale.

DER APPLICANT USE ONLY		*FAA USE ONLY*	
Requested Areas	**DETAIL DESIGN**	**Adv**	**EP**
	1A Turbine Engines		
	1B Piston Engines		
	1C Special (Specify)		
Requested Areas	**BLOCK TESTS**	**Adv**	**EP**
	2A Turbine Engines		
	2B Piston Engines		
	2C Special (Specify)		
Requested Areas	**PERFORMANCE CHARACTERISTICS**	**Adv**	**EP**
	3A Turbine Engines		
	3B Piston Engines		
	3C Special (Specify)		
Requested Areas	**VIBRATION ANALYSIS**	**Adv**	**EP**
	4A Turbine Engines		
	4B Piston Engines		
	4C Special (Specify)		
Requested Areas	**OPERATION MANUALS**	**Adv**	**EP**
	5A Turbine Engines		
	5B Piston Engines		
	5C Special (Specify)		
Requested Areas	**OVERHAUL MANUALS**	**Adv**	**EP**
	6A Turbine Engines		
	6B Piston Engines		
	6C Special (Specify)		
Requested Areas	**SERVICE DOCUMENTS**	**Adv**	**EP**
	7A Turbine Engines		
	7B Piston Engines		
	7C Special (Specify)		
Requested Areas	**EXHAUST EMISSIONS EVALUATION**	**Adv**	**EP**
	8A Turbine Engines		
	8B Piston Engines		
	8C Special (Specify)		
Requested Areas	**SOFTWARE**	**Adv**	**EP**
	9A Turbine Engines		
	9B Piston Engines		
	9C Special (Specify)		

Additional requirements for a DER with a delegation of Software Approval:

Circle One

Yes No (a) Comprehensive familiarity with, and understanding of, RTCA Document DO-178 (applicable revision), Software Considerations in Airborne Systems and Equipment Certification.

Yes No (b) Familiarity with the systems safety assessment process, specifically, those portions which establish the software criticality levels.

Yes No (c) A demonstrated knowledge of the rationale for, and the significance of, each stage in the software development process, as well as its supporting standards, procedures, and documentation. The DER should be able to identify the critical aspects and contents of each of the documents mentioned in DO-178.

Yes No (d) Experience gained from participation in some technically responsible capacity over a complete software development program life cycle. This qualification may be satisfied by an aggregate over several different software development programs.

Yes No (e) Experience interacting with all phases of software development and testing processes addressed by DO-178, including utilization of the associated configuration and quality control procedures. This experience should include significant responsible involvement in several of those phases. When assessing an applicant's capabilities for making a knowledgeable finding of compliance, experience obtained in the requirements development or testing phases may, for example, be weighted more heavily than that obtained in the detail design or coding phases.

Yes No (f) Fluency in at least one high-level and one assembly-level programming language and familiarity with typical support software used in a software development process. Familiarity with typical software tools available to facilitate the development, documentation, and consistency-checking processes is highly desirable.

Yes No (g) Demonstrated knowledge of the sources of software anomalies, the relative merits of the types of testing procedures which are available to protect against them, and the characteristics of a thorough test program.

Yes No (h) Familiarity with the aspects of computing peculiar to real-time avionics systems, such as the use of interrupts, multi-tasking, software reentrancy, etc. This should include an appreciation of the types of analysis and testing necessary to ensure the integrity of these mechanisms.

Yes No (i) An understanding of the techniques which may be employed to reduce software criticality levels, such as system architecture, multi-version programming, and partitioning. This should include the ability to assess the adequacy of a proposed technique relative to the integrity credit desired.

Yes No (j) Knowledge of hardware characteristics such as input/output schemes, memory organization and multi-port access, communication-bus protocols, and processor architecture, all of which have an impact on the software interface and the potential for the creation of anomalies.

Applicant's Name_____

ENGINES

Reference FAA Order 8110.37, Appendix 2, Chart E

DER APPLICANT USE ONLY		*FAA USE ONLY*	
Requested Areas	**SAFETY ANALYSIS**	**Adv**	**EP**
	10A Turbine Engines		
	10B Piston Engines		
	10C Special (Specify)		
Requested Areas	**LIGHTNING/HIRF PROTECTION**	**Adv**	**EP**
	11A Turbine Engines		
	11B Piston Engines		
	11C Special (Specify)		